Message

From: Christopher Mebane [cmebane@usgs.gov]
Sent: 8/23/2013 4:55:17 PM
To: Don.Essig@deq.idaho.gov [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4e58ee293a6743a68d71e165f7838db1-Don.Essig@deq.idaho.gov]; Macchio, Lisa [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e7a9f87246cd422d9bdace2cdf1abbef-Macchio, Lisa]
CC: Collins, Kathleen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d85953bc0b74bebbbd8f2a53b9da5f9-Collins, Kathleen]; Lehmann, Wade [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5dd685dec4643478e64efb18c1b1429-Lehmann, Wade]; Burgess, Karen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9085a27e8d724564890f33d47c72d9d1-Burgess, Karen]
Subject: RE: Notes from today's call on NOAA BiOp, draft RPA's for mercury and copper
Attachments: Riva-Murray.2013.pdf

Thanks Lisa and Don,
Lisa, I did not mean to imply during the call that I would re-draft the mercury RPA after looking at the data mentioned. That might indeed be the outcome, but I simply cannot make any independent commitments about document revisions. What do I recall suggesting was that if implementing the Idaho fish tissue number was too much hassle, it might make sense to look at an either/or water trigger concentration or a mixing zone constraint.

Don, I agree that with Hg, where the risk to fish is from a complicated water-bacteria-algae-invertebrate+ exposure pathway, the rationale for the 4-day averaging from the criteria guidance does not hold. Curious, Riva-Murray & Co. (attached) recently found that higher percentiles (e.g., 80th percentile) of the water Hg data did better than mean percentiles for predicting Hg bioaccumulation in fish – but only with MeHg in water. Total Hg in water didn't do well in their modeling. Measuring MeHg in water ups the ante considerably, and I'm not sure I would want to endorse routine monitoring of MeHg in water.
Chris

From: Don.Essig@deq.idaho.gov [mailto:Don.Essig@deq.idaho.gov]
Sent: Friday, August 23, 2013 10:01
To: Macchio.Lisa@epa.gov
Cc: cmebane@usgs.gov; Collins.Kathleen@epamail.epa.gov; lehmann.Wade@epa.gov; Burgess.Karen@epa.gov
Subject: RE: Notes from today's call on NOAA BiOp, draft RPA's for mercury and copper

Thanks Lisa, I appreciate this.

I did find some Boise effluent mercury data, summarized, from our certification effort back in 2011. The city reported mercury in their effluent as high as 16.8 ng/L, the mean was ~9 ng/L. From their data EPA projected an effluent max of 25 ng/L, and the effluent limit was set at 21 ng/L for a MDL (I did not check to see if that is their final limit). My recollection is that the Boise River is lower in total Hg, in the range of 4-5 ng/L, but there is much less data.

So there is RPTE for Hg only if no mixing is allowed, which is what was done. But even a modest mixing zone (16%) alleviates RPTE, as EPA calculates it. There clearly is no exceedance of criteria in stream with full mix, which as we heard is standard practice for human health criteria seeing as effects are based on long-term (lifetime) exposure.

Thinking about mercury, that it works its effects primarily through bioaccumulation in tissue, then it seems to me it is not transient one day or 4-day spikes in concentrations that are of concern, but rather a longer term average, such as the 30-day harmonic mean we use for human health criteria. But I'm not certain we know enough about how bioaccumulation works to know for sure how tissue levels responds to varying water concentrations. A familiar bugaboo.

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"Reading without reflecting is like eating without digesting."

From: Macchio, Lisa [mailto:Macchio.Lisa@epa.gov]
Sent: Thursday, August 22, 2013 4:43 PM
To: cmebane@usgs.gov; Don Essig; Kathleen Collins; Burgess, Karen; Lehmann, Wade
Cc: Palmer, John; Poulsom, Susan
Subject: Notes from today's call on NOAA BiOp, draft RPA's for mercury and copper

As promised, I'm providing a summary of the next steps we all agreed to on the call today.

I think we determined that the RPA's as written are problematic. We agreed that more work needs to be done before we can agree about the RPA that would be workable and agreeable to all.

Mercury

1. Check on Washington mercury data on POTWS – Karen will send this to folks – (she did that earlier today)
2. Send Boise River mercury data – Kathleen will provide this to Lisa who will send it out to everyone
3. Look more closely at Grouse Creek Mine mercury data – Chris

Once Chris has looked at the above data he will re-draft the RPA for mercury

Copper

1. EPA needs to look into whether we can allow/use screening estimates for copper to dictate permit conditions – Karen will check if this is legally available to NPDES and get back to folks.

I agreed to schedule a call so that once we have accomplished the tasks above we can re-group. I thought it would be beneficial if I tried to schedule that now and shoot for that date… if we're not ready to meet, I can always re-schedule. Let me know if I missed anything or I didn't capture what you understood was going to happen and if I missed on who is doing what.